State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
401-02B
Bureau of Nonpoint Pollution Control
Division of Water Quality
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609-633-7021 Fax: 609-777-0432
http://www.state.nj.us/dep/dwq/bnpc_home.htm

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

August 31, 2011

Carol Happel
Suntree Technologies, Inc.
798 Clearlake Road, Suite 2
Cocoa, FL 32926

Re: MTD Laboratory Test Certification for the Nutrient Separating Baffle Box by Suntree Technologies, Inc.

Effective Date: September 1, 2011
Expiration Date: September 1, 2013
TSS Removal Rate: 50%

Dear Ms. Happel:

The Stormwater Management Rules at N.J.A.C. 7:8 allow the use of manufactured treatment devices (MTDs) for compliance with the design and performance standards provided that the pollutant removal rates have been verified by New Jersey Corporation for Advanced Technology, NJCAT, and certified by the New Jersey Department of Environmental Protection (NJDEP).

The certification process was revised through the "Transition for Manufactured Treatment Devices," dated July 15, 2011. NJDEP has determined that Nutrient Separating Baffle Box by Suntree Technologies, Inc. is consistent with the criteria under *A. Manufactured Treatment Devices with Interim Certifications*. Therefore, **NJDEP certifies the use of the Nutrient Separating Baffle Box by Suntree Technologies, Inc. with a 50% TSS removal rate, provided that the project design is consistent with the following conditions:**

1. The model selected for the project design must be sized in accordance with Table 1 and based on the peak flow of the New Jersey Water Quality Design Storm as specified in N.J.A.C. 7:8-5.

2. The Nutrient Separating Baffle Box can only be used off-line. Any flow above the New Jersey Water Quality Design Storm must utilize an external bypass around the system.

3. A hydrodynamic separator, such as the Nutrient Separating Baffle Box, cannot be used in series with another hydrodynamic separator to achieve an enhanced removal rate for total suspended solids (TSS) removal under N.J.A.C. 7:8-5.5.

4. The maintenance plan for the sites using this device shall incorporate at a minimum, the maintenance requirements for the Nutrient Separating Baffle Box, attached.

Table 1

NSBB Model #	Inside Width, ft.	Inside Length, ft.	Baffle Height, in.	Baffle Thick-ness, in.	Volume Plan Area, ft^2	Maximum Treatment Flowrate, cfs	Maximum Sediment Storage Volume, ft^3	Required Sediment Removal Interval, years	Minimum Sediment Storage Volume, ft^3
2-4-60	2	4	24	2	7.3	0.44	4.89	2.45	1.00
3-6-72	3	6	36	3	16.5	1.0	16.5	3.64	2.27
4-8-84	4	8	36	3	30.0	1.8	30.0	3.68	4.08
5-10-84	5	10	36	3	47.5	2.8	47.5	3.74	6.34
6-12-84	6	12	36	4	68.0	4.0	68.0	3.75	9.06
8-12-84	8	12	36	4	90.7	5.3	90.7	3.78	12.0
8-14-100	8	14	40	4	107	6.2	119	4.22	14.0
10-14-100	10	14	40	6	130	7.8	144	4.09	17.7
10-16-125	10	16	46	6	150	8.9	192	4.75	20.2
10-20-125	10	20	48	6	190	11.1	253	5.03	25.2
12-20-132	12	20	48	6	228	13.3	304	5.05	30.1
12-24-132	12	24	60	6	276	16.0	460	6.36	36.2

In addition to the attached, any project with a Stormwater BMP subject to the Stormwater Management Rules, N.J.A.C. 7:8, must include a detailed maintenance plan. The detailed maintenance plan must include all of the items identified in Stormwater Management Rules, N.J.A.C. 7:8-5.8. Such items include, but are not limited to, the list of inspection and maintenance equipment and tools, specific corrective and preventative maintenance tasks, indication of problems in the system, and training of maintenance personnel. Additional information can be found in Chapter 8: Maintenance of the New Jersey Stormwater Best Management Manual.

NJDEP anticipates proposing further adjustments to this process through the readoption of the Stormwater Management Rules. Additional information regarding the implementation of the Stormwater Management Rules N.J.A.C. 7:8 are available at www.njstormwater.org. If you have any questions regarding the above information, please contact Ms. Sandra Blick of my office at (609) 633-7021.

Sincerely,

Ed Frankel, P.P., Acting Bureau Chief
Bureau of Nonpoint Pollution Control

C: Richard S. Magee, NJCAT
Chron file

Suntree Technologies Inc.

798 Clearlake RD, Cocoa, FL 32922, Ph: 321-637-7552 FAX: 321-637-7554, www.suntreetech.com

NJDEP Maintenance Requirements for the Nutrient Separating Baffle Box Manufactured by Suntree Technologies Inc.

A. General Maintenance:

Maintenance activities include the removal of captured debris. Maintenance can be performed from outside the NSBB through access hatches installed in the vault surface above each chamber. During maintenance, the screen system hinges off to the side to give easy access to the sediment collected in the settling chambers. A vacuum truck is required for debris removal.

Sediment should be removed at least twice per year to obtain the certified removal rate. A required maintenance interval of not more than twice per year has been determined based on the storage volume of every NSBB model and NJDEP anticipated sediment loadings.

Required Sediment Removal Interval

The required interval for sediment removal for the NSBB models was calculated using the following maintenance interval equation from "Protocol for Manufactured Hydrodynamic Separation Devices for Total Suspended Solids Based on Laboratory Analysis" as corrected in September 2009:

$$RRI = (MSSV * 0.50) / (3.366 * MTFR * (RE/100)) \quad \text{(Eq. 1)}$$

where RRI = Required Sediment Removal Interval, years
MSSV = Maximum Sediment Storage Volume, ft^3
MTFR = Treatment Flowrate, ft^3/sec
RE = TSS % Removal Efficiency, %

Equation 1 was applied to the NSBB models using the maximum recommended sediment storage volumes and Treatment Flowrates in

Table 1. The maximum recommended sediment storage volumes were established as one third (i.e. 33%) of the total storage volume available in each NSBB model. The TSS removal efficiency of 67.3% as established in the NJCAT verification testing was used in all calculations (NJCAT, 2008). The calculated Required Sediment Removal Intervals are listed in Table 1 and plotted in Figure 1. The Required Sediment Removal Intervals are less than two times per year for all NSBB models.

Table 1 Dimensions and Characteristics of some common NSBB Models

NSBB Model #	Inside Width, ft.	Inside Length, ft.	Baffle Height, in.	Baffle Thickness, in.	Volume Plan Area, ft^2	Treatment Flowrate, cfs	Recommended Maximum Sediment Storage Volume, ft^3	Required Sediment Removal Interval, years
2-4-60	2	4	24	2	7.3	0.44	4.9	2.5
3-6-72	3	6	36	3	16.5	1.0	16.5	3.6
4-8-84	4	8	36	3	30.0	1.8	30.0	3.7
5-10-84	5	10	36	3	47.5	2.8	47.5	3.7
6-12-84	6	12	36	4	68.0	4.0	68.0	3.8
8-12-84	8	12	36	4	90.7	5.3	90.7	3.8
8-14-100	8	14	40	4	106.7	6.2	118.5	4.2
10-14-100	10	14	40	6	130.0	7.8	144.4	4.1
10-16-125	10	16	46	6	150.0	8.9	191.7	4.8
12-20-132	12	20	48	6	228.0	13.3	304.0	5.0

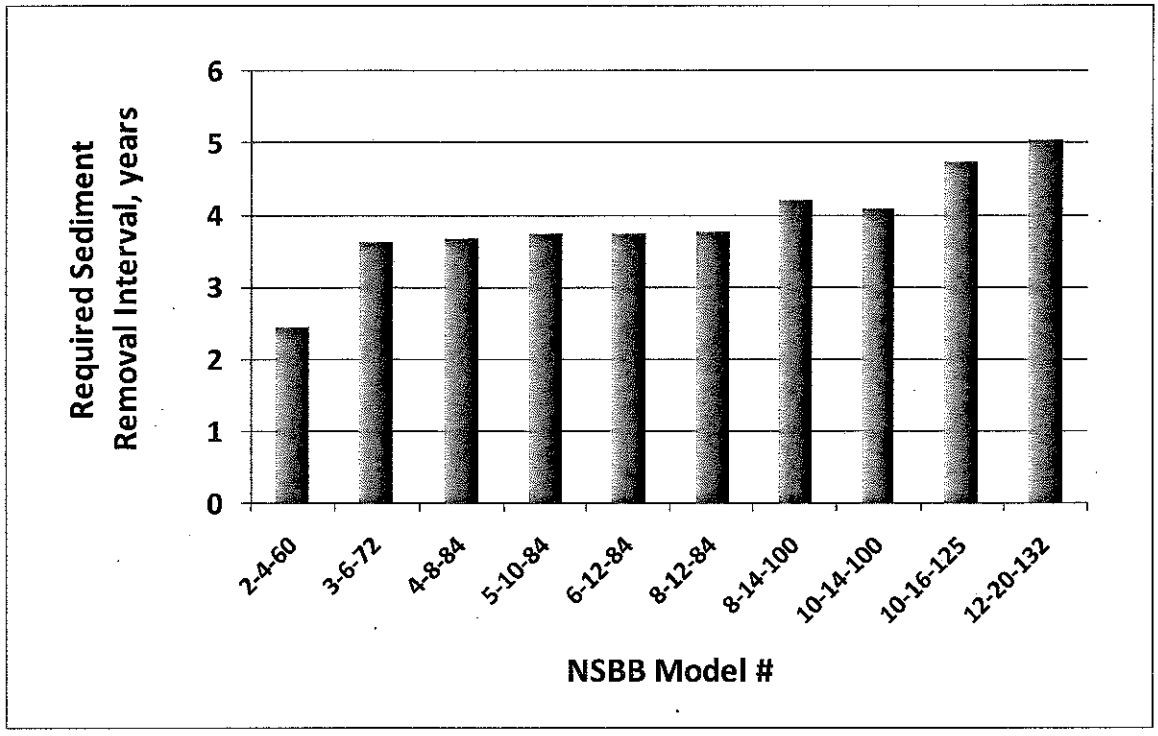

Figure 1 Required Sediment Removal Intervals of NSBB models

All inspection and maintenance activities should be recorded in an Inspection and Maintenance Log. Sediment, vegetation, and gross debris can generally be disposed of at the local landfill in accordance with local regulations.

Typical service procedure:

Step 1. Open the access openings on top of the Baffle Box. These access openings are typically hatches, round manhole covers, or grates.

Step 2. Vacuum the debris accumulated on the screen system until the screen system is empty.

Step 3. Open the bottom doors in the screen system to expose the sediment collection chambers. The doors are provided with eye bolts to attach a hook to lift open the doors which will hinge off to the side.

Step 4. Vacuum each of the lower sediment chambers until they are empty.

Step 5. After cleaning the sediment chambers close the bottom screen doors of the screen system.

Step 6. Visually inspect the Storm Boom in the skimmer system for oil accumulation. Change Storm Boom if it is significantly discolored or if it is close to 1 year old. The Storm Boom has ropes attached to each end which are fastened to eyelets adjacent to the access cover. These ropes act as a leash to prevent the boom from washing away, and to allow the boom to be easily pulled out of the containment bracket system on the face of the skimmer. Attach a rope on end of new boom to a rope on the end of the old boom. As the old Boom is pulled out it will pull the new boom into position. The booms will trade places. Attach the rope ends of the new boom to the eyelets adjacent to the access cover.

Step 7. When all maintenance work is completed, close the access covers.

B. Minimum Equipment requirements

A vacuum truck is required for the servicing or the Nutrient Separating Baffle Box. Safety equipment will be determined by local municipal guidelines.

C. Structural Components

The structural components are designed to have a life span of several decades. Unless local municipal guidelines require structural inspections, structural inspections are not required.

D. Replacement parts

All the interior components are designed and sized so that they can be unassembled and removed from the Nutrient Separating Baffle Box for either servicing or replacement. Replacing any of the interior components can be accomplished easily. Replacement components can be ordered by contacting:

Suntree Technologies Inc.
Ph: 321-637-7552
www.suntreetech.com